

### **ABSTRACT**

Numerous novel structures and methods are presented for their ability to correct angular and offset alignment errors caused by thermal distortion of a device formed out of dissimilar materials, such as a movable platform and waveguide coupled to a fixed platform and another waveguide. A flexure connected between two platforms corrects offset alignment errors along the centerline axis of the flexure. Thermal distortion is corrected also by varying the relative size of the two platforms and the addition of slots and/or extraneous waveguides. A waveguide may be sandwiched between two matching materials, with or without an extra thermal compensation layer portion. A method uses simple processes to build a substrate with matching waveguides on each side of the substrate. Another simple method creates a suspended structure by using simple semiconductor processes.